

## ABSTRACT OF THE DISCLOSURE

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A system and method for stabilizing the temperature of a detector array. The novel invention (100) includes one or more video reference pixels (52) adapted to output a reference signal that is responsive to the temperature of the detector array (50), and a mechanism for adjusting the temperature of the detector array (50) based 10 on the reference signal. In the illustrative embodiment, the mechanism includes a thermal electric cooler (112) and a processor (104) running a control algorithm (106) which calculates the amount of current which should be applied to the thermal electric cooler (112) based on the reference signal from the video reference pixels (52). The video reference pixels (52) are constructed from the same substrate as the detector 15 array (50), but are constructed in a manner such that they do not respond to changes in scene illumination.